

MULTI-SLICE DOUBLE INVERSION-RECOVERY BLACK-BLOOD IMAGING WITH SIMULTANEOUS SLICE RE-INVERSION

Abstract of the Disclosure

5 A multi-slice double inversion recovery (DIR) pulse sequence with read out
of a signal for imaging successive slices implemented on a magnetic resonance image
scanner. In the method, when the DIR pulse sequence is applied before imaging each
slice, a slab-selective inversion re-inverts the entire slab that includes all of the slices.
All slices are imaged within a predefined repetition time (TR). The number, N , of
10 slices acquired per TR controls the inversion time to execute the read out of the signal
for imaging each slice at a zero-crossing point of blood. In a test, multi-slice DIR
images of carotid arteries were obtained with N ranging from 2-8, for four subjects.
The results were compared with those for both standard single-slice DIR, and inflow
saturation techniques. Multi-slice DIR with $N=2-6$ provided blood flow suppression
15 in carotid arteries similar to that of single-slice DIR, and significantly better than
inflow saturation.